

Work Order ID 56711

March 4, 2010 3:19:26 PM



Page 1

Item ID: D3281-1L08

Accept



Setup Start



Revision ID:

Item Name: Floor Protector, Fwd LH

Stop



Start Date: 04/03/2010 Start Qty: 5.00



Cust Item ID:

Required Date: 12/03/2010 Req'd Qty: 5.00



Customer:

Reference:

Approvals:

Process Plan: *PL*

Date: *10-3-09*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3281

DEO E-1

100



HAND FINISHING THERMOFORMING

0.00

Thermoform

Memo

0.00

Thermoforming Machine

Cut Blanks

110



THERMOFORMING MACHINE

0.00

Thermoform

Memo

0.00

Thermoforming Machine

Thermoform as per Dwg. D3281 and Folio FTA 011
Dwg. Rev. *E*
Folio Rev. *E*

120



QC2- Inspect parts off machine FAI/FAIB

0.00

QC

Memo

0.00

Quality Control

Product dried at 255F.

Time IN

7:20 AM 10/03/09

Time OUT

7:00 AM 10/03/09

Pull Temp

325

Mould Temp

235

Release Temp

269

10/03/09

(X5)

X1 Snap

PTU ->

10/03/09

(X5)

BB

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3281-1208 PAR #: Fault Category: Thermforming NCR: Yes No DQA: Date: 10/03/10
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: Date: 10/03/16

NCR: <u>56711</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/03/09	110	SCRATCH ON BOTTOM OF PLASTIC PART Scrap Part #1, possibly scratched from shearing machine RC: Process.	<u> </u> 25/11/12	Scrap & replace qty 1 & destroy.	<u> </u> 10/03/10	<u> </u> 6/03/11	<u> </u> 25/11/12	<u> </u> 10/03/10

NOTE: Date & initial all entries

Work Order ID 56711

March 4, 2010 3:19:26 PM



Page 2

Item ID: D3281-1L08

Revision ID: -

Item Name: Floor Protector, Fwd LH

Start Date: 04/03/2010 Start Qty: 5.00

Required Date: 12/03/2010 Req'd Qty: 5.00

Reference:

Accept



Setup Start

Stop

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130



Thermoform

Thermoforming Machine

HAND FINISHING THERMOFORMING

Memo

Trim to Finished Dimensions

0.00

0.00

140



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

0.00

0.00

150



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

8.10.10/11

BB
10/03/10
XSBB
10/03/10
XS

XS

X/

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 56711

March 4, 2010 3:19:26 PM



Page 3

Item ID: D3281-1L08

Revision ID:

Item Name: Floor Protector, Fwd LH

Start Date: 04/03/2010 Start Qty: 5.00

Required Date: 12/03/2010 Req'd Qty: 5.00

Reference:

Accept



Setup Start

Stop



Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160



Packaging

Packaging

Packaging

Memo

0.00

0.00

10-3-12

SP SP

170



QC

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

0.00

10/03/16

MF

10-3-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March 4, 2010 3:19:54 PM

Page 1

Work Order ID: 56711

Parent Item: D3281-1L08

Parent Item Name: Floor Protector, Fwd LH

Comments: IPP Rev. A 10.02.24 New Issue LL

Start Date: 04/03/2010

Required Date: 12/03/2010

Start Qty: 5.00

Required Qty: 5.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MLEXS.118-90318-08		Purchased	No			100	sf	2,779.130	22.8068			

Lexan Sheet

Warehouse

Location

Main Warehouse

MAT

111588

113127

Loc Qty

2779.13

59.13

2720

Loc Code

BB 10/03/09
XS

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 56711
Description: Floor Protector, Fwd LH		Part Number: D3281-14081
Inspection Dwg: D3281	Rev: B E	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than 0.1875" Go/No Go	✓			
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

Measured by: BB

Date: 10/03/10

TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
18.6	+/-0.100	18.6	✓			
17.1	+/-0.100	17.125	✓			
11.7	+/-0.100	11.75	✓			
0.95	+/-0.030	0.968	✓			
0.25	+/-0.030	0.262	✓			
0.030	Min	0.075	✓			
0.070	Min	0.092	✓			

Measured by: BB

Date: 10/03/10

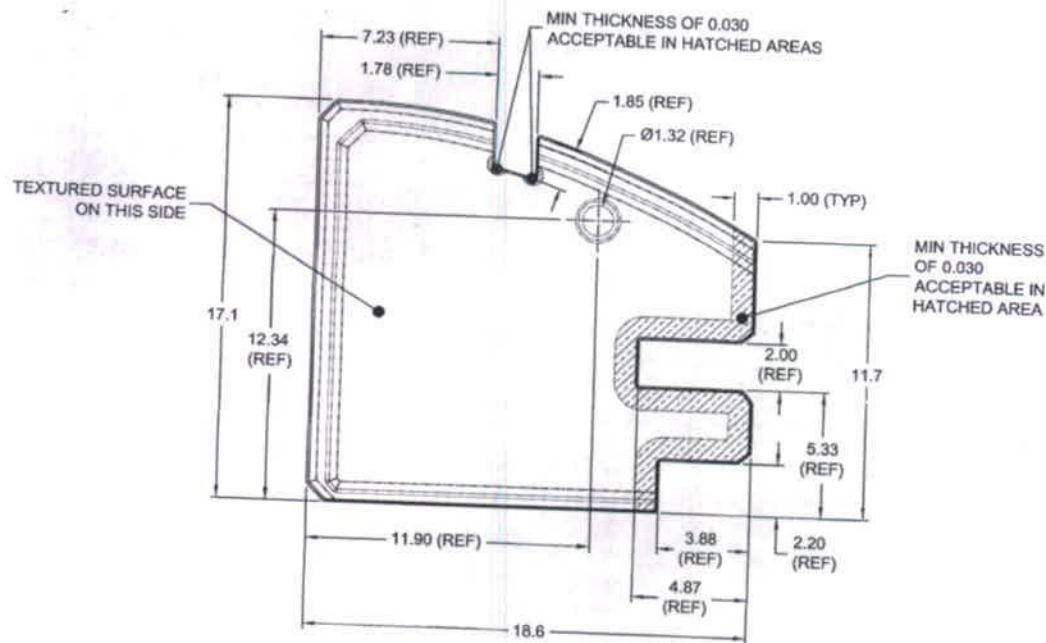
Audited by: KJ

Date: 10/03/10

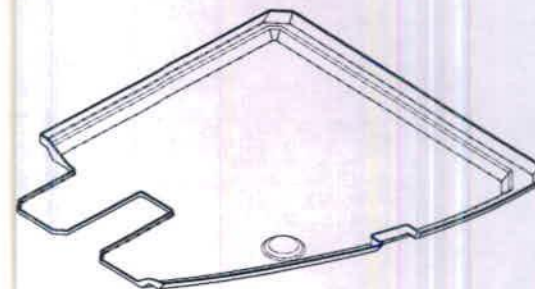
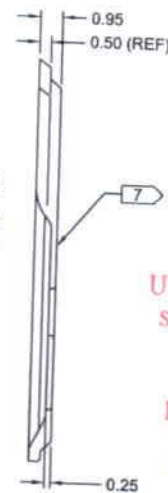
Prototype Approval: N/A

Date: N/A

Rev	Date	Change	Revised by	Approved
A	08.02.28	New Issue	KJ/DL	
B	08.04.16	Dimensions updated per Dwg Rev D	KJ/DL	
C	08.09.12	Tolerance revised for 0.070 dimension	KJ/DL	



D3281-1 FLOOR PROTECTOR



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 56711
B8103-09

DEO ATTACHED
RELEASED
2010-02-03
WP

- D3281-1 NOTES:**
- 1) THERMOFORM WITH MOLD D3281-1T1 PER DART QSI 022; TRIM AS SHOWN
 - 2) MATERIAL: LEXAN F6006, BLACK No. 701, 0.093" THICK (REF DART SPEC MLEXS.093-F6006-02)
 - 3) FINISH: NONE
 - 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 5) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 6) BREAK SHARP EDGES: 0.010 MAX
 - 7) IDENTIFICATION: IDENTIFY WITH DART P/N "D3281-1" AND BATCH NUMBER "BXXXXX" ON SMOOTH SIDE OF PART USING VIBRATING STYLUS
 - 8) WEIGHT: 0.95 lb

E	-3/4" NOW TRIMMED FLAT; RMV 0.25 BEVEL TO FACILITATE TRIMMING (ZN D6-3, D4-4)	CP	10.01.05
D	THICKNESS 0.093 WAS 0.125, MIN THICKNESS 0.070 WAS 0.080, P/N AND B/N ID WITH VIBRATING STYLUS (ZN A7-1, A7-2, A7-3, A7-4); D3281-4 NOW ON PAGE 4; CORRECT WEIGHTS (ZN A8-1, A8-2, A8-3, A8-4)	PH	08.03.28
C	UPDATE DIMS TO MATCH PARTS: COLOUR 701 WAS 700; GENERAL UPDATE	LE	07.10.09
B	NOW LEXAN; DIMS AS MANUFACTURED	CP	05.11.25
A	NEW ISSUE	CP	04.05.03
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.01.05		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D3281
TITLE FLOOR PROTECTOR
REV. E
SHEET 1 OF 4
SCALE NTS

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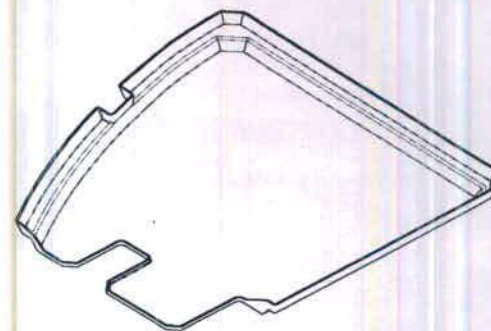
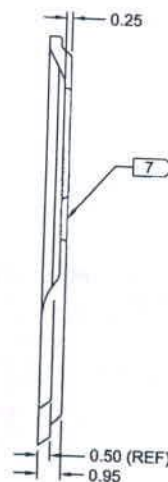
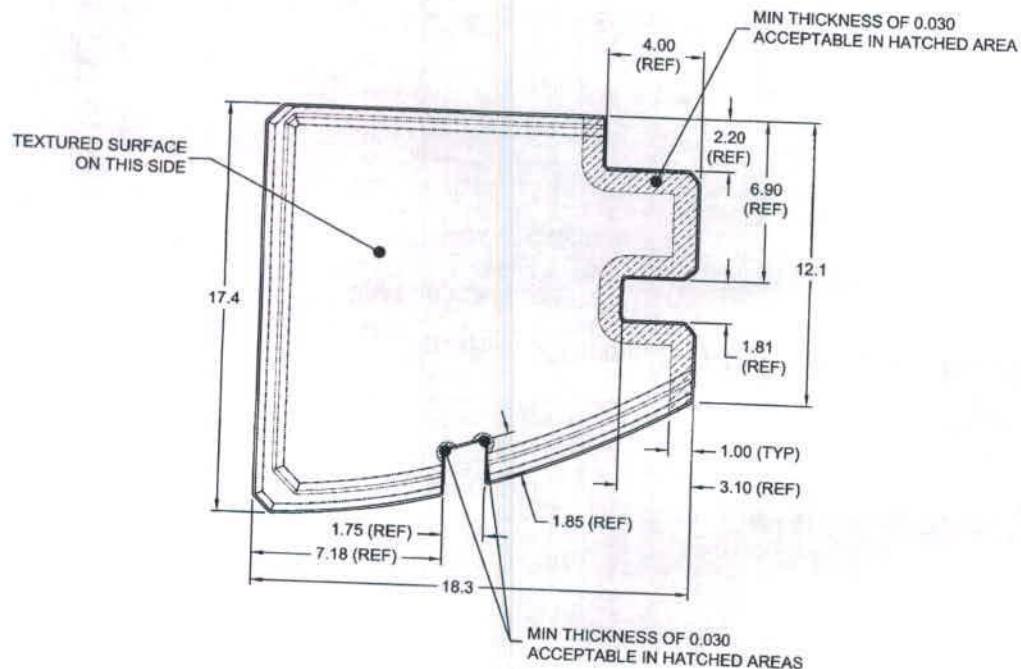
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3281-2 FLOOR PROTECTOR

D3281-2 NOTES:

- 1) THERMOFORM WITH MOLD D3281-2T1 PER DART QSI 022; TRIM AS SHOWN
MINIMUM THICKNESS AFTER FORMING: 0.070" EXCEPT WHERE INDICATED
- 2) MATERIAL: LEXAN F6006, BLACK No. 701, 0.093" THICK
(REF DART SPEC MLEXS.093-F6006-02)
- 3) FINISH: NONE
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.010 MAX
- 7) IDENTIFICATION: IDENTIFY WITH DART P/N "D3281-2" AND BATCH NUMBER "BXXXXX" ON SMOOTH SIDE OF PART USING VIBRATING STYLUS
- 8) WEIGHT: 0.97 lb

DEO ATTACHED

RELEASED

2010-02-03

W/O 56711

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D3281	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		FLOOR PROTECTOR	NTS
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Dart Aerospace Ltd

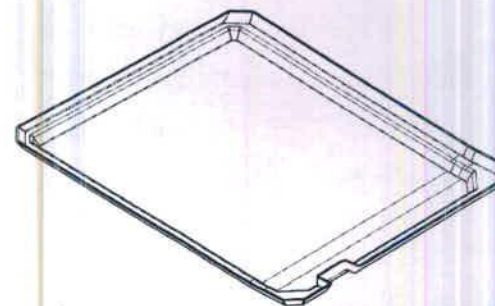
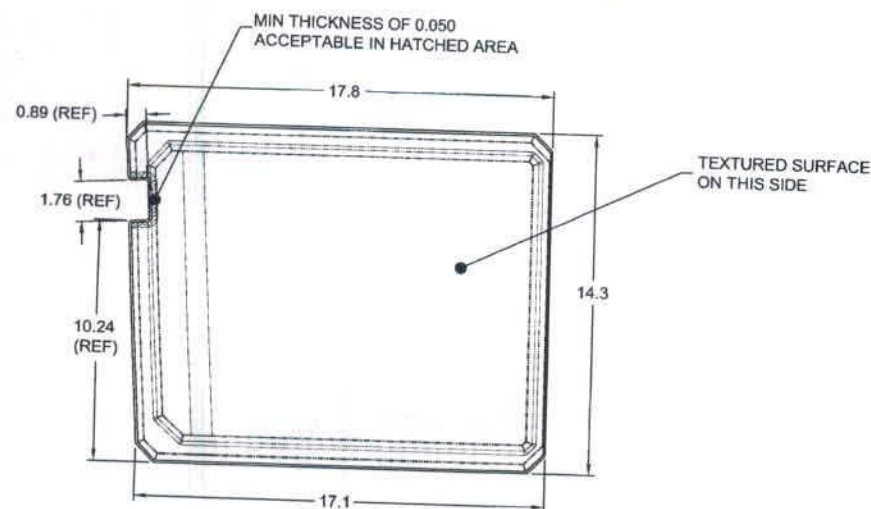
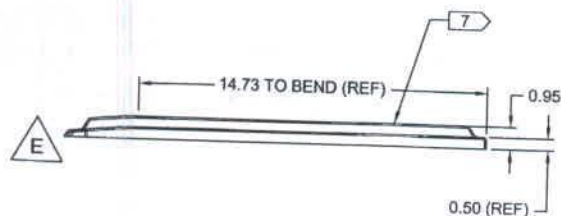
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3281-3 FLOOR PROTECTOR

D3281-3 NOTES:

- 1) THERMOFORM WITH MOLD D3281-3T1 PER DART QSI 022; TRIM AS SHOWN
MINIMUM THICKNESS AFTER FORMING: 0.070" EXCEPT WHERE INDICATED
- 2) MATERIAL: LEXAN F6006, BLACK No. 701, 0.093" THICK
(REF DART SPEC MLEXX.093-F6006-02)
- 3) FINISH: NONE
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.010 MAX
- 7) IDENTIFICATION: IDENTIFY WITH DART P/N "D3281-3" AND BATCH NUMBER "BXXXXX" ON SMOOTH SIDE OF PART USING VIBRATING STYLUS
- 8) WEIGHT: 0.87 lb

DEO ATTACHED

RELEASED
2010-02-03

WLO 5674

DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D3281	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		FLOOR PROTECTOR	NTS
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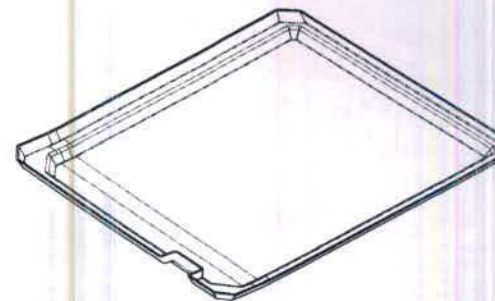
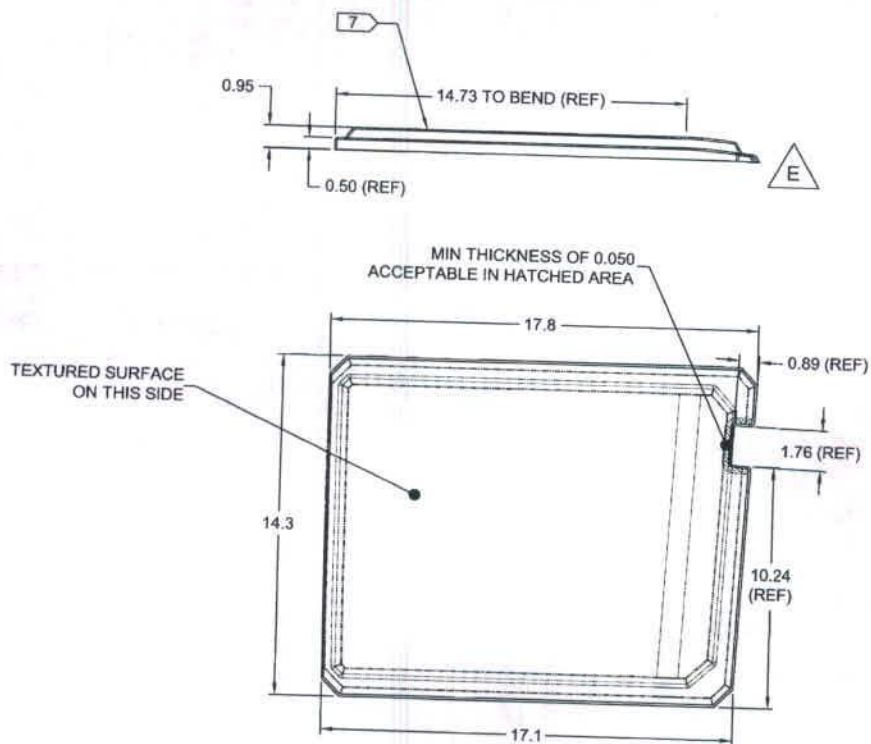
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3281-4 FLOOR PROTECTOR

D3281-4 NOTES:

- 1) THERMOFORM WITH MOLD D3281-4T1 PER DART QSI 022; TRIM AS SHOWN
MINIMUM THICKNESS AFTER FORMING: 0.070" EXCEPT WHERE INDICATED
- 2) MATERIAL: LEXAN F6006, BLACK No. 701, 0.093" THICK
(REF DART SPEC MLEXS.093-F6006-02)
- 3) FINISH: NONE
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.010 MAX
- 7) IDENTIFICATION: IDENTIFY WITH DART P/N "D3281-4" AND BATCH NUMBER "BXXXXX" ON SMOOTH SIDE OF PART USING VIBRATING STYLUS
- 8) WEIGHT: 0.87 lb

DEO ATTACHED

RELEASED
2010-02-03

DESIGN	92	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	92		
CHECKED	92	DRAWING NO.	REV. E
MFG. APPR.	92	D3281	SHEET 4 OF 4
APPROVED	92	TITLE	SCALE
DE APPR.	92	FLOOR PROTECTOR	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D3281	TITLE FLOOR PROTECTOR	REV. E	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3281-E-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>qp</i>	CHECKED <i>sk</i>	MFG. APPR. <i>sk</i>	APPROVED <i>sk</i>	DE APPR. <i>sk</i>			
DATE 10.02.24	DATE 10.02.25	DATE 10/02/25	DATE 10.02.25	DATE 10.02.25			

PURPOSE

ADD "D3281-xL08" MATERIAL OPTION. EXISTING PARTS TO BE IDENTIFIED AS "D3281-xL02"

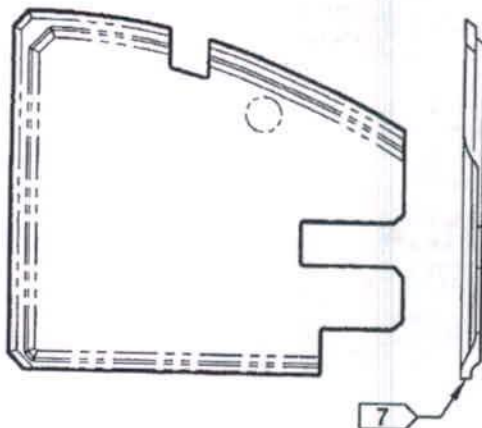
CHANGE

D3281-xL08 PARTS ARE EQUIVALENT TO THE RESPECTIVE "-x" PARTS EXCEPT AS DETAIL BELOW. THE MATERIAL, IDENTIFICATION, AND WEIGHT NOTES ARE AMENDED AS FOLLOWS:

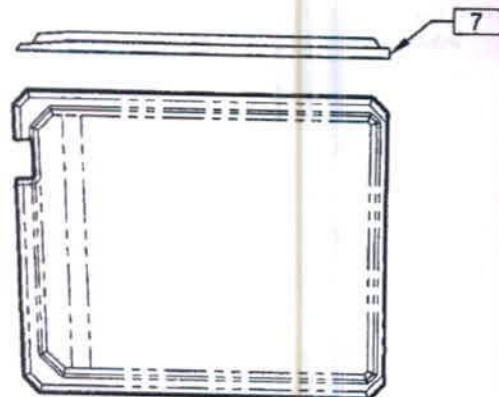
- 2) MATERIAL: -xL02 = LEXAN F6006, BLACK No. 701, 0.093" THICK (MLEXS.093-F6006-02)
 -xL08 = LEXAN 90318 (PROTECT-A-GLAZE), 0.118 THICK, 112-CLEAR (MLEXS.118-90318-08)

- 7) IDENTIFICATION: IDENTIFY WITH DART P/N "D3281-xLxx" AND B/N "Bxxxxx" ON SMOOTH SIDE OF PART USING VIBRATING STYLUS.
 FOR -xL08 PARTS, LOCATE ENGRAVING ALONG PERIMETER OF PART AS SHOWN.

- 8) WEIGHT: D3281-1L02/-2L02 = 0.95 lb D3281-1L08/-2L08 = 1.13 lb
 D3281-1L02/-2L02 = 0.87 lb D3281-3L08/-4L08 = 1.05 lb



D3281-1L08 FLOOR PROTECTOR (SHOWN)
D3281-2L08 FLOOR PRETECTOR (OPPOSITE)
 LOCATION OF ENGRAVING



D3281-3L08 FLOOR PROTECTOR (SHOWN)
D3281-4L08 FLOOR PRETECTOR (OPPOSITE)
 LOCATION OF ENGRAVING

RELEASED
 2010-02-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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